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10/615,634

07/08/2003

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EXAMINER

HAJNIK, DANIEL F

ART UNIT

PAPER NUMBER

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/615,634

Applicant(s)

BERSON ET AL.

Examiner

Daniel F. Hajnik

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-39 and 41-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guell et al. (NPL Document "FLILO - an Enhanced Vision System", herein referred to as "Guell") in view of NASA et al. (NPL Document "NASA's High-Speed Research Program", herein referred to as "NASA") in further view of Snyder (US Patent 6381519).

As per claim 1, Guell teaches the claimed "first sensor" and teaches the claimed "second sensor" by teaching of a plurality of imaging sensors shown on pg. 34, figure 4.

Guell teaches the claimed "fuse the images to a single viewpoint" by teaching of "The video images from the cameras are digitized, and electronically combined in the Electronic Imaging System (EIS) Processor to form an external view to the pilot" (pg. 33, 1st full paragraph in 1st col).

Guell teaches the claimed "transform the fused image to a first viewpoint image ... and a second viewpoint" by teaching of in figure 6 where a cockpit is shown with displayed titled images. If a pilot and co-pilot were both sitting in the cockpit, each pilot (operator) would have a different viewpoint image from their respective positions within the cockpit where the set of tiled images is constructed from fused images from multiple sensors. Further, Guell teaches the use

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of having multiple pilots in the cockpit by teaching of "FLILO would help retain the two-man cockpit crew" (pg. 34, last of line of 1st col and first line of 2nd col). Further, Guell teaches the claimed limitation by teaching of "Each pilot has an independent view, which is controlled by their head position, while utilizing the same sensors that are static and fixed to the aircraft" (pg. 32, middle of 1st col).

Guell does not explicitly teach the claimed the remaining claim limitations.

NASA teaches the claimed "detect moving objects in the images" by teaching of a feature described as "Object Detection: Data was gathered to help develop methods for detecting other aircraft" (third item in bulleted list under section "XVS Flight Test Series II").

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Guell and NASA. One advantage of the combination is provided by NASA, which teaches of "In addition to providing valuable real-time sensor data for subsequent analyses, the first XVS flight test series gave researches confidence that a future supersonic passenger jet could indeed be flown without forward facing windows in the cockpit" (3rd paragraph under the section "XVS Flight Test Series I") where the functionality of moving object detection would aid in achieving a windowless cockpit.

Snyder teaches the claimed "generate a third display area associated with at least two mutually exclusive windows of information on a display device for the first operator station" by teaching of (in the abstract, "the present invention allows multiple members of an aircraft crew to share control of common flight information display areas" where figure 5 shows several mutually exclusive windows of information)

Snyder teaches the claimed:

“generate a third display area associated with at least two mutually exclusive windows of information on another display device for the second operator station” by teaching of (col 3, line 33, "Helmet Mounted Displays (HMDs)" where each user, i.e. a first and second operator can each be wearing a head mounted display and col 3, lines 13-14, "user(s) 102 may interact with the data elements graphically" where graphically windows are shown in figure 6) .

Snyder teaches the claimed:

“wherein the third display area can be customized independently by the operators to display detailed information related to the information displayed in at least one of in the associated windows” by teaching of (col 5, lines 37-45, "One aspect of the design of displays 304 and 306 is the ability for both pilot and copilot to access both displays from each seat, using a distinctive cursor ... for example, when the pilot is working on, for example, an en route high altitude chart on display 304, the copilot can work on the same chart on display 306, using a different range scale or type of format" and col 7, lines 5-6, "The MFDs are configured to allow the pilots to modify selected parameters displayed as a window")

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Snyder with the combinable system of Guell and NASA in order to give more flexibility and control over the display system to each member of the crew (col 1, lines 50-54).

As per claim 2, Guell does not explicitly teach the claimed "combine the first and second viewpoint images with symbols". NASA teaches the claimed limitation by teaching of "pilot's ability to control and land the aircraft relying only on sensors and computer-generated images (including various symbols) on the XVS display" (2nd paragraph under the section titled "XVS Flight Test Series I"). It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to provide useful data to the pilot when navigating an aircraft.

As per claim 3, Guell does not explicitly teach the claimed "detecting moving objects ... are to configured to execute simultaneously". NASA teaches the claimed limitation by teaching of multiple sensors (third paragraph under section "XVS Flight Test Series II") where these sensors would both be utilized to detect moving objects. It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to provide useful and important data relating to moving aircraft to the pilot using the visualization system.

As per claim 4, Guell teaches the claimed "transforming the fused image to the first viewpoint image" and teaches the claimed "transforming the fused image to the second viewpoint image" by teaching of on pg. 32, figure 1, where the plurality of imaging sensors data is inputted into an "Electronic Imaging System (EIS) processor" and the resulting image data is then sent to a pilot for display. While Guell does not explicitly teach the claimed use of a plurality of processors, it would have been obvious to use a plurality of processors for real-time data processing in order to send the image data to more than one operator (different viewpoints) because it is well known in the art that multi-processor use can be much faster.

As per claim 5, Guell does not explicitly teach the claimed "symbols represent the moving objects in the vicinity of the device". NASA teaches the claimed limitation by teaching of computer-generated symbols on the display (2nd paragraph under section titled 'XVS Flight Test Series I') and by teaching of detecting moving objects (third item in bulleted list under section "XVS Flight Test Series II"). It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to provide convenient and useful data to the pilot when navigating an aircraft.

As per claim 6, Guell does not teach the claimed limitation. Snyder teaches the claimed environmental information in figure 5 where information about the aircraft's environment is shown in 502 and 508. It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to provide situational awareness data to the pilot to achieve safer flying.

As per claim 12, Guell teaches the claimed "wherein the first sensor and the second sensor are video cameras" by teaching of "video images from the cameras are digitized, and electronically combined in the Electronic Imaging System (EIS)" (pg. 33, first full paragraph in first column).

2. Claims 7-11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guell in view of NASA in further view of Snyder in further view of Bernier et al. (US Pub 2004/0169663, herein referred to as "Bernier").

As per claim 7, Guell does not explicitly teach the claimed "wherein the symbols represent weather hazards in the vicinity of the device". NASA teaches of computer-generated symbols on the display (2nd paragraph under section titled 'XVS Flight Test Series I'). Bernier teaches the claimed weather hazards "Visual hindrances may be due to bad weather, such as fog, snow, or rain, or they may be due to the time of day, such as night, dawn, or dusk. Further, some visual hindrances are due to the field of view limitations of the aircraft itself. Many aircraft cockpits have a field of view that is typically limited to a forward facing area that does not provide the pilot with adequate visualization to the sides and rear of the aircraft" (paragraph [0005]).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Bernier with the combinable system of Guell, NASA, and Boorman. Bernier teaches one advantage to the combining visible and computer generated image features by teaching of "The images are then summed together in this intensity percentage ratio, thereby providing the user with the benefit of both images" (paragraph [0017]).

As per claim 8, Guell does not explicitly teach the claimed "to receive an enhanced image from a third sensor configured to provide an image of the out-the-window scenery in low-visibility conditions". Bernier teaches the claimed limitation by teaching of "Typical sensors used with the system are low-light video cameras, long-wave infrared sensors, and millimeter wave radar, to name a few" (paragraph [0050]). It would have been obvious to one of ordinary

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skill in the art to use the claimed feature in order to provide better navigation capabilities in the visualization system.

As per claim 9, Guell does not explicitly teach the claimed limitation. Bernier teaches the claimed limitation by teaching of "For example, given a visible and an infrared image covering similar fields of view, the images can be combined at the pixel level, where priority can be given to the infrared image based upon its pixel intensity" (paragraph [0017]) where the combining is the fusing. It would have been obvious to one of ordinary skill in the art to use the claimed feature of Bernier. Bernier teaches one advantage to combining the visible and infrared image features of Bernier with the system of Guell and NASA by teaching of "The images are then summed together in this intensity percentage ratio, thereby providing the user with the benefit of both images" (paragraph [0017]). Thus, the pilot using the imaging system of Guell and NASA would benefit from receiving a blended and effectively combined image display, because a blended image provides information of two sources simultaneously to aid with accurate imaging.

As per claim 10, Guell does not explicitly teach the claimed limitation. Bernier teaches the claimed limitation by teaching of "Typical sensors used with the system are low-light video cameras, long-wave infrared sensors, and millimeter wave radar, to name a few" (paragraph [0050]) where these sensors can be position sensors. It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to provide better navigation capabilities in the visualization system.

As per claim 11, Guell does not explicitly teach the claimed "utilize data from off-board data sources regarding the objects". Bernier teaches the claimed limitation by teaching of "the central processor receives the output of a synthetic vision system that generates 3D terrain and graphics from a navigation database" (paragraph [0101]) where this database would contain off-broad 3D terrain data and off-broad navigation data since the aircraft would have limited capabilities of obtaining ground data through on-board ground sensors if at high altitudes. It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to provide better navigation capabilities in the visualization system.

As per claim 13, Guell does not explicitly teach the claimed "wherein the third sensor is a RADAR". Bernier teaches the claimed limitation by teaching of "Typical sensors used with the system are low-light video cameras, long-wave 'infrared sensors, and millimeter wave radar, to name a few" (paragraph [0050]). It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to provide better navigation capabilities to the visualization system.

As per claim 14, Guell does not explicitly teach the claimed "wherein the third sensor is a FLIR sensor". Bernier teaches the claimed limitation by teaching of "Typical sensors used with the system are low-light video cameras, long-wave 'infrared sensors, and millimeter wave radar, to name a few" (paragraph [0050]), where the long-wave infrared sensors perform a similar

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function to the FLIR. It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to provide better navigation capabilities to the visualization system.

3. Claims 16-19, 24-27, 33, 37, 38, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guell in view of NASA in further view of Sankrithi et al. (US Patent 6,405,975, herein referred to as "Sankrithi") in further view of Lipsanen et al. (US Pub 20020059614, herein referred to as "Lipsanen").

As per claims 16, 24, and 37, the reasons and rationale for the rejection of claim 1 are incorporated herein in regards to the claimed receiving of images from sensors, the claimed fusing the images, and the claimed transforming the fused images to viewpoints.

Guell does not teach the claimed limitations relating to the "outputting step".

Sankrithi teaches the claimed:

"outputting the first operator viewpoint image to a first display device and the second operator viewpoint image to a second display device, wherein the display devices are positioned to provide the portion of a desired out-the window visual scene in combination with a window that provides another portion of the desired out-the-window visual scene" by teaching of in figure 6A where the first display device (272L) and the second display device (272R) are shown each displaying a real-world view. Further, these display devices are provided in combination with the real-world scene from the cockpit window, where the cockpit window would be above the

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two display devices. Further, figure 6B shows that the display devices can be aligned directly next to the cockpit window.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Sankrithi with the combinable system of Guell and NASA. One advantage of the combination is provided by Sankrithi, which teaches of aiding in maneuvering airplanes (col 1, line 66 – col 2, line 5).

Lipsanen teaches the claimed:

“the viewpoint images are aligned with and scaled to conform to the out-the-window visual scene” by teaching of ([0058], " to display interface 516, which, as discussed above in connection with FIG. 1, performs the operations of scaling ... as needed to appropriately display the video data on display 518, ... Display 518 may be, for example, a flat panel display or a virtual display such as a head-mounted 3D display" where this scaling on the head-mounted display can be applied to the display system of Guell to achieve alignment and out of the window displaying).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Lipsanen with the combinable system of Guell, NASA, and Sankrithi in order to ("optimize the display of data to a user of MMT 500" [0058] of Lipsanen).

As per claims 17 and 18, Guell does not explicitly teach the claimed "detecting objects in the first fused image from the first type of sensor" and does not explicitly teach the claimed "combining the first fused image with symbols representing the objects". NASA teaches the

claimed limitations by teaching of "Object Detection: Data was gathered to help develop methods for detecting other aircraft" (third item in bulleted list under section "XVS Flight Test Series 11"). NASA teaches of this object detection being used with the first fused image from the first type of sensor because it differentiates "Object Detection" from "Object Detection via Radar" (object detection through the second fused image) in describing data collection methods in the bulleted list under section "XVS Flight Test Series II". It would have been obvious to use the claimed feature in order to provide the pilot with better navigation data through computer-generated symbols.

As per claim 19, Guell teaches the claimed "transforming the first operator viewpoint image and the second operator viewpoint image to conform to the out-the-window visual scene" by teaching of "In essence, the actual outside world view can encompass a very large area that can go beyond what is visually allowed by the cockpit windows, providing unobstructed views in any desired direction (see figure 3)" (pg. 33, last sentence of 1st column, and top of second column).

As per claims 25, 26, and 27, Guell does not explicitly teach the claimed "display processor is further operable to combine the viewpoint image with symbols, wherein the symbols represent information regarding the operational state of the device and the moving objects detected in the images", does not explicitly teach the claimed "display processor is further operable to detect moving objects in the first sensor image", and does not explicitly teach the claimed "display processor is further operable to generate symbols representing moving objects

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in the sensor image and the operational state of the device". NASA teaches the claimed limitations by teaching of tracking objects in the section titled "XVS Flight Test Series III" and by teaching of "pilot's ability to control and land the aircraft relying only on sensors and computer-generated images (including various symbols) on the XVS display" (3rd paragraph under the section titled "XVS Flight Test Series I"). NASA teaches of an advantage of displaying symbols of moving objects used in the XVS system by teaching of "The envisioned external Vision System (XVS) would guide pilots to an airport, warn them of other aircraft near their flight path, and provide additional visual aides for airport approaches, landings and takeoffs" (2nd paragraph in article). NASA teaches of displaying symbols (a feature of the XVS system) that would warn pilots of other aircraft near their flight path. It would have been obvious to use the claimed features in order to provide the pilot with better navigation data through computer-generated symbols.

As per claim 33, Guell teaches the claimed "sensor is a video camera" by teaching of "video images from the cameras are digitized, and electronically combined in the Electronic Imaging System (EIS)" (pg. 33, first full paragraph in first column).

As per claim 38, this claim has limitations that follow those within claim 17 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 46, Guell teaches the claimed limitations by teaching of "specific mission/operational needs" (pg. 33, top of 1st col) and by teaching of a "Control Panel" (figure 1).

4. Claims 20-23, 28-32, 34-36, 39, 41-45, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guell in view of NASA in further view of Sankrithi in further view of Lipsanen in further view of Bernier et al. (US Pub 2004/0169663, herein referred to as "Bernier").

As per claims 20-23 and 41-45, Guell teaches the claimed "transforming the second fused image to the first operator viewpoint and to the second operator viewpoint" by teaching of "Each pilot has an independent view, which is controlled by their head position, while utilizing the same sensors that are static and fixed to the aircraft structure" (pg. 32, middle of first paragraph in first column) where the each pilot's independent view is an operator viewpoint.

Guell teaches the claimed "providing portions of the transformed image with data from a terrain map database" by teaching of a "Moving Map / RTIC" displayed as a portion of the transformed image in pg. 34 figure 6.

Guell does not explicitly teach the claimed fusing the first and second images "with an enhanced image of a portion of the out-the-window scenery from at least one of the group of a RADAR sensor and a FLIR sensor, to generate a second fused image". Bernier teaches the claimed limitation by teaching of "Typical sensors used with the system are low-light video

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cameras, longwave infrared sensors, and millimeter wave radar, to name a few" (paragraph [0050]) where the long-wave infrared sensors perform a similar to function to the FLIR.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Bernier with the combinable system of Guell, NASA, and Sankrithi. One advantage of the combination is provided by Bernier, which teaches of "the system of the present invention may include two different types of sources ... the sources provide different images of the same field of view; each source having associated advantages and disadvantages. For example, one source could be a video camera . . . and the other source may be an infrared sensor that provides images based on heat sensing" (paragraph [0016]). The pilot of the system of Guell would benefit from image sources, which provide image data in a variety of environmental conditions (i.e. low-visibility conditions) such as the infrared sources because it would help the pilot see more information as to the surroundings of the aircraft.

As per claim 28, Guell does not explicitly teach the claimed limitation. NASA teaches of computer-generated symbols on the display (2nd paragraph under section titled 'XVS Flight Test Series I'). Bernier teaches the claimed weather hazards "Visual hindrances may be due to bad weather, such as fog, snow, or rain, or they may be due to the time of day, such as night, dawn, or dusk. Further, some visual hindrances are due to the field of view limitations of the aircraft itself. Many aircraft cockpits have a field of view that is typically limited to a forward facing area that does not provide the pilot with adequate visualization to the sides and rear of the aircraft" (paragraph [0005]). It would have been obvious to one of ordinary skill in the art to use the claimed feature as taught by Bernier with Guell. Bernier teaches one advantage to the

combining visible and computer generated image features by teaching of "The images are then summed together in this intensity percentage ratio, thereby providing the user with the benefit of both images" (paragraph [0017]).

As per claim 29, Guell does not explicitly teach the claimed limitation. Bernier teaches the claimed limitation by teaching of "Typical sensors used with the system are low-light video cameras, long-wave infrared sensors, and millimeter wave radar, to name a few" (paragraph [0050]). It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to provide better navigation capabilities in the visualization system.

As per claim 30, Guell does not explicitly teach the claimed limitation. Bernier teaches the claimed limitation by teaching of "For example, given a visible and an infrared image covering similar fields of view, the images can be combined at the pixel level, where priority can be given to the infrared image based upon its pixel intensity" (paragraph [0017]) where the combining is the fusing. It would have been obvious to one of ordinary skill in the art to use the claimed feature of Bernier with Guell. Bernier teaches one advantage to combining the visible and infrared image features of Bernier with the system of Guell and NASA in paragraph [0017].

As per claim 31, Guell does not explicitly teach the claimed limitation. Bernier teaches the claimed limitation by teaching of "Typical sensors used with the system are low-light video cameras, long-wave infrared sensors, and millimeter wave radar, to name a few" (paragraph [0050]) where these sensors can be position sensors. It would have been obvious to one of

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ordinary skill in the art to use the claimed feature in order to provide better navigation capabilities in the visualization system.

As per claim 32, Guell does not explicitly teach the claimed "utilize data from off-board data sources regarding the objects" Bernier teaches the claimed limitation by teaching of "the central processor receives the output of a synthetic vision system that generates 3D terrain and graphics from a navigation database" (paragraph [0101]) where this database would contain off-broad 3D terrain data and off-broad navigation data since the aircraft would have limited capabilities of obtaining ground data through on-board ground sensors if at high altitudes. It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to provide better navigation capabilities in the visualization system.

As per claim 34, Guell does not explicitly teach the claimed "wherein the second sensor is a RADAR". Bernier teaches the claimed limitation by teaching of "Typical sensors used with the system are low-light video cameras, long-wave 'infrared sensors, and millimeter wave radar, to name a few" (paragraph [0050]). It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to aid the pilot in navigating in low-visibility light.

As per claim 35, Guell does not explicitly teach the claimed "wherein the second sensor is a FLIR sensor". Bernier teaches the claimed limitation by teaching of "Typical sensors used with the system are low-light video cameras, long-wave 'infrared sensors, and millimeter wave radar, to name a few" (paragraph [0050]), where the long-wave infrared sensors perform a

similar function to the FLIR. It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to aid the pilot in navigating in low-visibility light.

As per claim 39, Guell does not explicitly teach the claimed limitation. Bernier teaches the claimed "primary flight information" by teaching of "For example, the aircrafts HSI and ADI displays, altimeters, airspeed, etc, could be displayed on the display as a tile or fused with an image to provide an integrated view ... while also viewing the environment surrounding the aircraft" (paragraph [0102]). It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to aid the pilot by providing important navigation data.

As per claims 36, and 47, Guell does not teach the claimed limitations. Bernier teaches the claimed limitation by teaching of in figure 16 a common window, 124 is generate from two separate image sources 122a and 122b (windows of information). Bernier in figure 18 shows that the common window can have mutually exclusive (not overlapping) windows of information, 134 and 136 and that the common window is customizable where the added windows of information 134 and 136 are customized added features. It would have been obvious to one of ordinary skill in the art to use the claimed feature in order to aid the pilot by providing important navigation data through a convenient user interface.

Response to Arguments

1. Applicant argues that Sankrithi does not teach the claimed limitations relating to the outputting step in claim 16 because the images are of the landing gear and do not conform with

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the out-the-window scene (top of page 11 of remarks). The examiner respectfully maintains the rejection is proper because the primary reference of Guell shows displayed images which are aligned and conforming with out-the-window scene in figures 3 and 6. Sankrithi is relied upon in the combination of references for the concept of displaying windows next to an out-the-window visual scene. Further, the newly applied reference of Lipsanen is relied upon for teaching the concept of scaling the images to help align them in the system of Guell.

2. Applicant's remaining arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The following prior art made of record and relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6842122

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

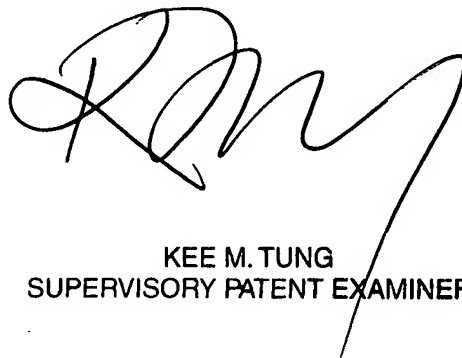
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel F. Hajnik whose telephone number is (571) 272-7642. The examiner can normally be reached on Mon-Fri (8:30A-5:00P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka J. Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DFH



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